

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1–10 (Cancelled)

11. (Original) A ceramic member, comprising:
a ceramic component comprising aluminum oxide, wherein the aluminum oxide comprises at least about 99.8% of the ceramic member, wherein the aluminum oxide was formed from aluminum oxide particles having less than about 100 parts per million of sodium and less than about 600 parts per million of silica, and that was ground with media that comprise aluminum oxide ceramic pieces that have less than about 200 parts per million of sodium.
12. (Original) A ceramic member as in claim 11, wherein the ceramic member contains less than about 200 ppm of sodium.
13. (Original) A ceramic member as in claim 11, wherein the ceramic member contains less than about 1,500 ppm of silica.
14. (Original) A ceramic member as in claim 11, wherein the ceramic component is fashioned in the shape of a cell phone base station.
15. (Original) A ceramic member as in claim 11, wherein the ceramic component is fashioned in the shape of a vacuum chamber cover.
16. (Original) A ceramic member as in claim 11, wherein the ceramic component is fashioned in the shape of a semiconductor manufacturing part.
17. (New) A ceramic member as in claim 11, wherein the grinding with the media deagglomerates and reduces particle size of the aluminum oxide particles.

18. (New) A ceramic member as in claim 17, wherein the aluminum oxide particles have a mean particle size in the range from about 0.5 microns to about 4 microns after the grinding.

19. (New) A ceramic member as in claim 11, wherein the ceramic component is formed by:

placing the aluminum oxide particles into a slurry;
adding a low sodium grade binder to the slurry;
drying the slurry to form a powder; and
forming the powder into a certain shape and producing the ceramic component.

20. (New) The ceramic member as in claim 19, wherein the low sodium grade binder comprises polyethylene glycol.

21. (New) The ceramic member as in claim 19, wherein the drying of the slurry comprises spray drying the slurry.

22. (New) The ceramic member as in claim 19, wherein the producing of the ceramic component comprises thermally treating the formed powder.

23. (New) The ceramic member as in claim 20, wherein the thermal treatment comprises heating the formed powder to a temperature in the range from about 1580°C to about 1670°C for about 2 to about 10 hours.

24. (New) The ceramic member as in claim 11, wherein the ceramic component has a dielectric loss value that is less than about 5×10^{-5} .

25. (New) The ceramic member as in claim 11, wherein the aluminum oxide particles are produced from mined bauxite.